

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A method of controlling the flow rate of a first fluid sample flowing through a microfluidic channel, the method comprising:

selecting a second fluid having a known viscosity;

sheathing the first fluid sample within a center region of the second fluid flowing through the microfluidic channel; and

flowing the first fluid sample and the second fluid through the microfluidic channel in laminar flow,

wherein:

the second fluid completely surrounds, and is in contact with, the first fluid sample at an interface between the second fluid and the first fluid sample;

the flow rate of the first fluid sample is constant across the center region;

the flow rate of the first fluid sample is substantially equal to the flow rate of the second fluid at the interface between the second fluid and the first fluid sample; and

the second fluid is selected for achieving a desired flow rate at the interface between the first fluid sample and the second fluid.

2-32. (Cancelled)

33. (Currently Amended) The method of claim 1, wherein the first fluid sample has an unknown or variable viscosity.

34. (Currently Amended) The method of claim 1, wherein the first fluid sample comprises non-dissolved particles.